

<b>Notice of Allowability</b>	Application No.	Applicant(s)	
	10/761,023	YOKHIN ET AL.	
	Examiner	Art Unit	
	Irakli Kiknadze	2882	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the Amendment dated 12/13/2004.
2. ☒ The allowed claim(s) is/are 1-4.
3. ☒ The drawings filed on 20 January 2004 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |  |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment                               |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|   | 9. <input type="checkbox"/> Other _____.   |

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### **DETAILED ACTION**

1. In response to the Office action dated September 21, 2004 the Amendment has been received in December 13, 2004.

Claims 1-3 have been amended.

Claim 4 has been newly added.

Claims 1-4 are currently pending in this application.

### ***Allowable Subject Matter***

2. Claims 1-4 are allowed.

3. The following is an examiner's statement of reasons for allowance:

Claim 1 is allowed because prior art fails to teach or make obvious a crystal monochromator, comprising: first and second crystal elements, the crystal elements having a common surface of curvature chosen so as to focus the radiation at the first and second wavelengths to a common focal area as claimed.

Claim 2 is allowed because prior art fails to teach or make obvious a crystal monochromator, comprising first and second crystal elements, having a curvature chosen so as to focus the radiation at the first and second wavelengths to a common focal area, wherein the first and second crystal elements comprise first and second crystals having respective front surfaces with the chosen curvature, positioned side by side so that the front surfaces define a common curve as claimed.

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Claim 3 is allowed because prior art fails to teach or make obvious a crystal monochromator comprising first and second crystal elements, the crystal elements having a curvature chosen so as to focus the radiation at the first and second wavelengths to a common focal area, wherein the first crystal element comprises a bulk crystal having a front surface with the chosen curvature, and the second crystal element comprises a thin layer formed on the front surface of the first crystal element as claimed.

Claim 4 is allowed because prior art fails to teach or make obvious a crystal monochromator comprising first and second crystal elements with spacings  $d_1$  and  $d_2$  chosen to diffracting radiation incident thereon at respective wavelengths  $\lambda_1$  and  $\lambda_2$ , at selected Bragg angle, such that  $d_2 / d_1 = \lambda_2 / \lambda_1$ , the crystal elements having a curvature chosen so as to focus the radiation at the first and second wavelengths to a common focal area as claimed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kikuchi (US Patent 6,574,306 B2), Marcelli et al. (US Patent

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6,233,096) and Giacconi et al. (US Patent 3,143,651) teach crystal monochromator comprising multiple diffracting crystal elements used for X-ray applications.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Irakli Kiknadze whose telephone number is 571-272-2493. The examiner can normally be reached on 9:00- 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on 571-272-2490. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Irakli Kikandze  
January 27, 2005

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*Craig E Church*

Craig E. Church  
Primary Examiner